

PROJECT AGREEMENT

BETWEEN

THE DEPARTMENT OF TRANSPORTATION OF THE UNITED STATES OF AMERICA (DOT)

AND

THE FEDERAL MINISTRY OF TRANSPORT OF THE FEDERAL REPUBLIC OF GERMANY (MOT)

CONCERNING

COOPERATION IN THE DEVELOPMENT AND APPLICATION OF POLICY

SENSITIVE MODELS FOR FREIGHT DEMAND FORECASTING

AUTHORITY. This Project Agreement (hereinafter referred to as the Agreement) is entered into pursuant to the Memorandum of Understanding concerning cooperation in the field of transportation which was signed on September 3, 1975, by the Secretary of Transportation of the United States of America (USA) and the Federal Minister of Transport of the Federal Republic of Germany (FRG).

2. PURPOSE. This Agreement is intended to achieve the maximum practicable cooperation in the joint development of policy sensitive, disaggregated models of freight demand, and in the calibration and testing of such models in both the USA and FRG.

3. PROJECT OFFICERS. Within thirty days of the signature of this Agreement the Program Coordinators for the two parties, acting within the scope of their responsibilities under subparagraph II.d of the Memorandum of Understanding,

1 each designate a Project Officer who will serve as the principal point of contact between the parties in completing agreed tasks and achieving agreed cooperative objectives.

4. PROJECT ACTIVITY. The agreed program of activities and task assignments is set forth in the Project Work Statement in the Annex.
5. CONTRACTORS. It is contemplated that the parties will utilize contractors in connection with their responsibilities under the Project Work Statement. ✓
The initial contractors are the Massachusetts Institute of Technology (MIT) for the DOT and Messerschmitt-Bolkow-Blohm (MBB) for the MOT. It is understood that the Project Work Statement will be reviewed and necessary amendments made in the event the contractor of either party is replaced in the course of the project.
6. FINANCIAL ASPECTS. Each party shall bear, either directly or through contract, the costs arising in connection with its participation in the project.
7. LIABILITY. - The parties will exercise their best efforts to ensure the accuracy of all data provided for the project, but the complete accuracy of the data cannot be guaranteed. Each party will use the other's data at its own risk and will not hold the other party responsible for damages arising out of the use of such data.
8. AMENDMENT. This Project Agreement may be amended at any time by mutual agreement of the parties.
9. DURATION. Unless otherwise terminated by either party on 90 days written notice, this Project Agreement shall remain in force until the various activities and task assignments described in the Project Work Statement and in amendments thereto have been completed.

For the Department of Transportation
of the United States

Roy L. Broney

February 7 1977

For the Ministry of Transport
of the Federal Republic of Germany

Heinrich

ANNEX

Project Work Statement

Development of a Policy Sensitive Model for Freight Demand Forecasting

Phase I

This phase will consist of continued work by MIT on the structural development of policy sensitive, disaggregated models of freight demand and design of the necessary data to calibrate and test models using U. S. markets. The MOT/MBB work would concentrate upon completion of the Stage II work and the coordinated development of the "noncontainerizable" disaggregated model for testing and application in Germany. MBB will also design and undertake the necessary data collection for calibration and testing of the model in Germany. Final structure of the German model will benefit from comment by MIT. The results of the MOT/MBB Stage II model application will be compared with the results of the disaggregated model by the MOT/MBB. The implications of these results for further model development will be prepared by MBB with the coordination of MIT.

Tasks

MOT/MBB

1. Complete Stage II model and testing for the German economy.
2. Conceptualization and structuring of disaggregated demand model of "noncontainerizable" freight in a selected partial market.
3. Integrate comments of U.S./MIT and produce final "noncontainerizable" model structure.
4. Design and implement data collection necessary to calibrate and test model (from Task 3).
5. Undertake calibration and application of the model, from Task 4, to the German setting.
6. Apply an aggregation procedure to disaggregated model.
7. Compare results from the application of the Stage II and the noncontainerizable disaggregated models.
8. Incorporate comments from U.S./MIT in preparation of Phase I report on the two models and the results of calibration and testing.

U.S./MIT

1. Undertake model conceptualization for policy sensitive disaggregated model of U. S. freight system.
2. Undertake analysis of data requirements, including commodity classification, transportation system attributes, shipper behavior, etc., needed to complete and test models.
3. Review Stage I ("containerizable") and Stage II model results from MOT/MBB and identify how those results should modify the U. S. model structure.
4. Cooperate with MBB in the final design of the "noncontainerizable" model to be tested and evaluated in Germany.
5. Provide comments to MOT/MBB on the model calibration and testing of results, as well as on the comparative results between "Stage II - noncontainerizable" and "noncontainerizable" disaggregated models.

Phase II

During Phase II the results from the MOT/MBB efforts in Phase I will be used in specifying and implementing the calibration and testing of policy sensitive, disaggregated freight demand models for the U. S. setting. The guidance and collaboration of MOT/MBB will be a major resource to MIT efforts. The funding of the U.S./MIT efforts for Phase II is not yet committed, but is being actively pursued. Also, an early task in Phase II will be a jointly developed paper discussing and comparing the freight and transportation related conditions in the U. S. and Germany. The paper should focus attention on how disaggregated behavioral demand models would have to differ to effectively apply in the two countries.

Tasks

MOT/MBB

1. In collaboration with U.S./MIT develop paper comparing the U. S. and German freight and transportation systems and how they affect model structure.
2. Consult with MIT in refining the U. S. model as a result of Phase I results and the paper produced under Task 1.
3. In collaboration with U.S./MIT review and comment on the results of MIT efforts in Phase II in calibration and testing of models applied to U. S. setting.

4. In collaboration with U.S./MIT identify high priority future research topics which could be jointly sponsored.

U.S./MIT

1. Collaborate with MOT/MBB in developing paper contrasting U. S. and German freight and transportation settings.
2. Using the results from Phase I and Task 1 of Phase II modify initial model structures for calibration and testing using U. S. data.
3. Calibrate and test the disaggregated, behavioral models using U. S. freight data to be collected by MIT. (German data may be used to supplement U. S. data)
4. Prepare final report on model development, calibration and testing including comparison of U. S. results with those from the German efforts in Phase I. Collaboration and comments of MOT/MBB are to be obtained.
5. In collaboration with MOT/MBB identify high priority future research areas which could be jointly sponsored by U. S. DOT/MOT.